

What is claimed is:

1. A sputtering target consisting essentially of Si,
wherein a ratio ($I_{(111)}/I_{(220)}$) of peak intensity ($I_{(111)}$) of
5 (111) face to peak intensity ($I_{(220)}$) of (220) face of Si is
in a range of 1.8 ± 0.3 when a sputtering surface of the
target is measured for crystal face orientation by X-ray
diffractometry.
2. The sputtering target according to claim 1,
10 comprising an Si sintered material having a relative density
in a range of 70 % or more and 95 % or less.
3. The sputtering target according to claim 1, having
hardness in a range of Hv 300 or more and Hv 800 or less in
terms of Vickers hardness.
- 15 4. A sputtering target consisting essentially of Si,
wherein the target comprises an Si sintered material having a
relative density in a range of 70 % or more and 95 % or less.
5. A sputtering target consisting essentially of Si,
wherein the target has hardness in a range of Hv 300 or more
20 and Hv 800 or less in terms of Vickers hardness.
6. The sputtering target according to claim 5, wherein
the target as a whole has dispersion of the Vickers hardness
within 30 %.
7. The sputtering target according to claim 5,
25 comprising an Si sintered material having a relative density
in a range of 70 % or more and 95 % or less.
8. A sputtering target consisting essentially of Si,
wherein an oxygen content of the target is in a range of 0.01

mass% or more and 1 mass% or less.

9. The sputtering target according to claim 8, comprising an Si sintered material having a relative density in a range of 70 % or more and 95 % or less.

5 10. The sputtering target according to any one of claims 1 through 9, which is a target for forming an oxide film.

11. The sputtering target according to any one of claims 1 through 10, which is used as a target for forming an
10 optical thin film.

12. A process for producing an Si oxide film, comprising forming an Si oxide film by sputtering the sputtering target according to any one of claims 1 through 9 in an oxygen-containing atmosphere.

15 13. The process for producing an Si oxide film according to claim 12, wherein the Si oxide film is an optical thin film.